

The Use of Students' Portfolio within the Assessment Process at University Level during the Covid-19 Pandemic

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Abstract

Keywords:

formative assessment; portfolio; e-portfolio.

The formative assessment that is increasingly required in the context of a competency-focused university is supported by various assessment methods and tools. One of these is the student's learning portfolio, an evaluation method that can maximize the potential and individuality of each student. If correctly applied in the university practice, the portfolio is an objective tool for assessing the level of knowledge and skills in the field of the discipline. At the same time, it offers real feedback and the possibility of optimizing the educational activity, both for the student and the teacher. This article presents a quantitative interpretation of students' views on how the portfolio used during a semester, in the context of online teaching, has contributed to the acquisition of knowledge and skills specific to the discipline, personal, and professional skills. Based on the students' responses positive and negative aspects of the teaching, learning, and evaluation specific to the discipline were identified in the current pandemic context, to valorize and optimize them.

Zusammenfassung

Schlüsselworte:

Formative Beurteilung; Portfolio; E-Portfolio.

Die Formative Beurteilung, die zunehmend im Kontext einer kompetenzorientierten Universität zunehmend erforderlich ist, wird durch verschiedene Prüfungsmethoden und -instrumente gefordert und unterstützt. Eines davon ist das Lernportfolio der Studenten, eine Bewertungsmethode, die das Potenzial und die Individualität jedes Beteiligten am Lernprozess maximieren kann. Bei richtiger Anwendung in der Hochschulpraxis ist das Portfolio ein objektives Instrument zur Einschätzung des Wissens- und Kompetenzstandes im Fachgebiet. Gleichzeitig bietet es echtes Feedback und die Möglichkeit, die pädagogische Aktivität sowohl für den Lernenden als auch für den Lehrenden zu optimieren.

Dieser Artikel präsentiert eine quantitative Interpretation der Einschätzung der Studierenden, wie das während eines Semesters verwendete Portfolio im Kontext der Online-Lehre zum Erwerb von fachspezifischen Kenntnissen und Fähigkeiten, persönlichen und beruflichen Kompetenzen beigetragen hat. Anhand der Antworten der Studierenden könnten wir positive und negative Aspekte des Lehrens, Lernens, aber auch der fachspezifischen Evaluation im aktuellen Pandemie Kontext identifizieren, um daraus Kapital zu schlagen und eine mögliche Optimierung vorzunehmen.

1. Introduction

Formative evaluation in the context of student-centered teaching and learning should be associated with a complex process which has as objectives the following: assessment of the high level of knowledge of the tested student- items correlated with the goals; assessment of the student's motivational level-identification of the level of attention, interest, curiosity, and persistence in the task through periodic observations and monitoring, psychological tests, etc. and students skills-assessment of both theoretical and pragmatic level, being a reflection of the learning process (Dulamă, 2004, p.69).

Associating formative assessment at the university level with these goals, we can identify some formative

valences of each assessment process initiated at the university level:

- Increases the quality level of the teaching process by permanent correlation with the specific objectives of the discipline; updating the scientific content according to the social progress, but also to the needs of the students; permanent reconsideration of the adopted teaching strategies; maintaining the teacher-student relationship at an optimal functional level and maintaining a high positive motivation towards learning.

- Provides the student with high-quality skills: the participation of the student in the process of assessment or self-evaluation training and evaluation (by ascertaining the progress during the course); aware

of one's own learning needs and acquired skills; improving one's learning style; encouraging permanent reflection on one's activity and active involvement and maintaining a highly positive tone towards learning.

In this order, Yorke (2003, p.485) mentioned that formative assessment at the university level, while the validity of the assessment has to reach an acceptable level, the reliability is less important because the fundamental purpose of the activity is developmental rather than related to measurement. Thus, any possible plan for a learning-oriented assessment should comply with the following:

- Establishing the objectives of the formative evaluation: see the discipline syllabus.
- Proposing for the evaluation tasks: correlation with the objectives and curricular contents of the discipline; the wording following the level of the students; their number; ways of feedback, date of delivery; evaluation criteria, scale.
- Involvement of the student in the formative assessment process: choosing the assessment tasks or the assessment tools; feedback provided to colleagues and teacher, self-assessment.
- Presentation and analysis of models or examples of good practice.
- Analyzing and interpretation of the students' results.
- Providing ways to optimize the results obtained (individualized or differentiated, as appropriate).

At university level, the pandemic context showed the importance of the context of the activities and not only the course content. Internal organization is essential to assure the learning trajectory's quality (Abcouwer et al. 2021, p.203). Various factors influencing students' learning are also related to each educational institution's specificity and approach to teaching and learning processes.

The formative assessment was/ is more pressing since many universities have to switch from face-to-face to online instruction, and online teaching, learning, and assessment have become "the new norm" (Todd, 2020). Because of this pressing, many teachers had difficulties facilitating students' knowledge and engaging with online formative assessment, and they need a guideline with specific and descriptive orientation (Rahim, 2020). When employing online assessment, university teachers must consider readiness among students and teachers, cheating

practices, and student diversity (Tuah & Naing, 2021) as practical issues. They must handle them to ensure and reconsider good learning experiences for their students. On the one hand, the pandemic online assessment process was intended to be formative. On the other hand, ensuring this goal in this specific context was difficult, with many challenges.

2. Theoretical background

Senel & Senel (2021) mentioned some assessment techniques used in the online assessment process: online assignments, take-home exams, performance tasks, e-portfolios, and peer/self-assessment forms, which were activated higher-level skills of the students us: student's thinking, criticizing, evaluating, creating an idea or product and preparing students for related tasks or questions. So, the online assessment supposes finding the best modalities for ensuring objectivity and, at the same time, a student-centered assessment. So, it is essential to select the best assessment tools and insist on their contribution to students' learning, one of which is the portfolio.

As an assessment method, the portfolio represents "a transversal selection in the authentic documents that show the student's progress in learning" (Manolescu & Panțuru 2008, p.336). Therefore, the portfolio is a cross-sectional reflection on the student's learning activity and the teacher's teaching activity. The portfolio becomes a source of feedback, introspection, and self-reflection for both actors. It provides a good framework for capitalizing on formative assessment. But how does the portfolio become a formative assessment resource? For sustaining the formative assessments, each students' portfolio must be aware of: clear establishment of the portfolio pieces together with the students; for each piece will be established: skills needed, the objectives; the targeted curricular contents, recommendations for bibliographic resources, concrete task, accompanied sometimes by a model of achievement, a scoring bar for each assessment criteria, date of delivery (partial and final date), the feedback method and the way to receive teacher's suggestions, the possibility to improve, the practice of self-reflection on the realized portfolio.

It was observed the pragmatic character of the portfolio (transposed in the possibility of using the assimilated knowledge within the subsequent educational activity); the structured and systematic character of the portfolio (elaboration of the products of the action, respecting their staggering on the given period and the natural continuity of the approaches

initiated by the students; the scientific character of the portfolio (the use of scientific language appropriate to the standards of the field of activity and specific rigors); the objective character of portfolio (elaboration and drafting particular criteria for each product within the portfolio, but also on the portfolio as a whole in accordance, explicit standards and scoring guides for each specific course portfolio (Dysthe et al. 2007); the creative character of the portfolio (originality in making the products presented in the portfolio, so as to reflect the student's own style) and the personal character of the portfolio (rendering an analysis and a personal conclusion on the issues presented in the portfolio, etc.

In addition, Colen et al. (2006; apud. Martinez-Lirola & Rubio, 2009, p.94) mentioned that a portfolio evaluation is very reliable if it seeks the following objectives: help students assume the responsibility for their learning involving them in the evaluation process; give teachers detailed information about students' work and progress; integrate evaluation into the learning process; encourage teachers and students to introduce changes in the way of teaching and learning and organize and give coherence to the information that students have prepared. So, teachers and students need to reflect on their daily work supporting the assessment process and teaching and learning processes and their optimized value.

The e-portfolio was defined from a different point of view in the literature. Related to the organization goal, for example, The National Learning Infrastructure Initiative (NLII, 2003) defines an electronic portfolio as: "a collection of authentic and diverse evidence, drawn from a larger archive representing what a person or organization has learned overtime on which the person or organization has reflected, and designed for presentation to one or more audiences for a particular rhetorical purpose" (Barrett & Carney, 2005). At the individual level, the e-portfolio is a purposeful aggregation of digital items - ideas, evidence, reflections, feedback which 'presents' a selected audience with evidence of a person's learning and ability (Sutherland & Powell, 2007; apud. Alexiou & Paraskeva, 2010, p.3049). In both definitions, the e-portfolio refers to a temporal evolution and a set/selection of material or tools as evidence of the manifested activities. It is essential to point out these crucial characteristics of an e-portfolio for understanding the function of such an instrument for the student.

Like the traditional portfolio, the e-portfolio has a goal to monitor students' competencies to accredit learning (Kankaanranta et al., 2001) and offer the possibility to optimize it (Duca & Duque, 2006). The e-portfolio assures and sustains student-centered learning (Stefani et al. 2007) in the university. Regarding the connection of e-portfolio with the development of students' self-awareness in the learning process, the focus is on promoting students' self-management and self-responsibility (Lopez-Fernandez, O., & Rodriguez-Illera, 2009; Chen et al. 2001) and self-regulation in the learning process (Wade et al., 2005; Abrami et al., 2007; Alexiou & Paraskeva, 2010), helping students to be self-awareness of the educative goals achieved throughout an academic endeavor (Zubizarreta, 2004) and support personal development, reflective learning (Stefani et al., 2007) and reflective thinking (Alsbai, 2017).

For students' professional development, the e-portfolio supports the students to select and pursue learning activities within and outside of their formal curricula to achieve personal and professional goals (Reardon et al.2005) and develop their professional standards (Alajmi, 2019)

The portfolio helps teachers to understand and know the students' behavior (Hope, 2005), providing a great and precise follow-up of their students (Rodriguez-Donaire et al. 2010). Also, it supports and encourages the educational motives of the student in the educational process (Tregubova et al., 2008), developing student-teacher and student-student communication and collaboration (Guo & Greer, 2005) and cooperation among teachers (Ozgur & Kaya, 2011).

In the previously mentioned literature, the e-portfolio has multiple functions in the teaching process. Synthetizing the previously mentioned, Sakhieva et al. (2015) pointed out the portfolio functions. A portfolio is a tool for better motivation, improving students' motivation for learning. It helps to ensure students acquire new knowledge, skills, and competencies. To support projection and modeling, through a portfolio, the student designs his educational path and models the personal professional development. It is an instrument for reflection and evaluation, it supports a formative assessment of the student and enhances learning through review. Also, the portfolio is essential for the teachers and could be a reflective tool on teacher's activity and necessary optimizations. So, the portfolio remains the most

illustrative instrumental sets of a multimodal assessment (summative/formative; initial/current/final; intermittent/continuous) (Ungureanu, 2001).

3. Research methodology

This research aimed to identify students' opinions on how the portfolio used in the online university process (due to the pandemic educational context) influenced some specific aspects of their learning and learning results. In this respect, it was designed a quantitative analysis on students' opinions regarding how the usage of the portfolio influenced students learning on the five dimensions proposed by Chang et al. (2013): knowledge sharing (measured sharing status among peers), knowledge innovation (measured students' changes on their thinking toward knowledge), knowledge acquisition (measured students' status on knowledge acquisition), knowledge application (measured how students applied knowledge on artifacts or how they reflected) and knowledge accumulation (students' status on knowledge storage and accumulation). It was adapted these items for measuring not the level of each dimension but their opinion on portfolio influence on attending them through the portfolio. Ninety-one second-year students completed these items at Pedagogy II discipline, the 2021-2022 year of study, first semester, at Teacher Training Department from The West University of Timisoara, Romania. At the end of the semester, its completion was optional. The answers presented below are anonymous. A scale from 1 (totally disagree), 2 (disagree), 3 (somehow), 4 (agree) to 5 (totally agree) was used.

We present the portfolio components and each assessment criteria from the beginning of the semester (first online meeting). The pieces were the following:

Application of a teaching/assessment method – oral and PowerPoint presentation in groups of 3 students – 25% of the final grade of the seminar. The task was uploaded until the established date on the Google Classroom platform. The PowerPoint could be optimized on the oral feedback given by the teacher.

Design two lesson sequences on a specific theme, individually realized - 25% of the final grade for that seminar. This task construction was a long-term common effort of students with the teacher support (6 seminars' practical activities supported this task completion). Students have had the freedom to complete this as they have advanced in practical support applications and could use the opportunity of

partial feedback from the teacher (if they finished on time the practical activity support. The students did not have the opportunity to make any changes to this task after it was uploaded on the classroom platform.

Optionally, students can upload an observation sheet for one of the presentations made by their colleagues, used as feedback for their colleagues' presentations. By completing this observation sheet and uploading it on the classroom platform, students have obtained a 1-point bonus to the final grade of the seminar.

The final evaluation (50% of the final grade of discipline) was by uploading the final exam topic on Google Classroom until the set exam date. Students had one week to attend this task and upload it on Google Classroom. They did not have the opportunity to optimize this task, but they received written feedback from their teacher.

Due to the fact that during the COdiv-19 pandemic courses at university were delivered online, this portfolio was a combination between the traditional portfolio and an e-portfolio.

4. Results

The students' opinions on how the usage of the e-portfolio has influenced their knowledge and abilities will be in the following (Table 1.) on each dimension (average for each dimension and each item):

Table 1. The students' responses

| Dimensions | Score (average) |
|---|-----------------|
| 1. Knowledge sharing | 3.482 |
| I shared the process or result of reflection with peers | 3.600 |
| I shared the process or result of revision of artifacts with peers. | 3.411 |
| I shared the process or the result of the self-assessment with peers. | 3.367 |
| I shared the learning contents (e.g., notes, handouts, and website resources) that I rearranged with peers. | 3.607 |
| I shared the result of peer feedback toward my artifacts with peers. | 3.367 |
| I shared the result of teacher feedback toward my artifacts with peers. | 3.551 |
| I shared the feeling and thought of viewing others' artifacts with peers. | 3.270 |
| I spent time to share and discuss with peers. | 3.681 |

| | | | |
|--|--------------|--|--------------|
| 2. Knowledge innovation | 4.069 | I applied knowledge that I learned from peer feedback toward my artifacts to real or other situations. | 3.600 |
| I developed my own thinking model from reflection. | 4.135 | I applied knowledge that I learned from teacher feedback toward my artifacts to real or other situations. | 4.253 |
| I developed my own thinking model from revision of artifacts. | 4.189 | I applied knowledge that I learned from peer review of others' artifacts to real or other situations. | 3.615 |
| I developed my own thinking model from self-assessment. | 4.110 | I applied knowledge that I learned from discussions to real or other situations. | 4.022 |
| I developed my own thinking model from rearrangement of learning contents (e.g., notes, handouts, and website resources). | 3.656 | 5. Knowledge accumulation | 4.125 |
| I developed my own thinking model from peer feedback toward my artifacts. | 4.256 | I accumulated knowledge from reflection. | 4.135 |
| I developed my own thinking model from teacher feedback toward my artifacts. | 3.780 | I accumulated knowledge from revision of artifacts | 4.389 |
| I developed my own thinking model from peer review of others' artifacts. | 4.247 | I accumulated knowledge from self-assessment. | 4.191 |
| I developed my own thinking model from discussions. | 4.176 | I accumulated knowledge from rearrangement of learning contents (e.g., notes, handouts, and website resources). | 4.156 |
| 3. Knowledge acquisition | 4.113 | I accumulated knowledge from peer feedback toward my artifacts. | 3.674 |
| I acquired knowledge from reflection. | 4.176 | I accumulated knowledge from peer review of others' artifacts. | 4.495 |
| I acquired knowledge from revision of artifacts. | 4.242 | I accumulated knowledge from peer feedback toward my artifacts. | 3.500 |
| I acquired knowledge from self-assessment. | 4.178 | I accumulated knowledge from teacher feedback toward my artifacts. | 4.461 |
| I acquired knowledge from rearrangement of learning contents (e.g., notes, handouts, and website resources). | 4.165 | General score | 3.941 |
| I acquired knowledge from peer feedback toward my artifacts. | 3.648 | The general mean obtained from students' answers was 3,941, demonstrating that the respondents agreed that the usage of the portfolio influenced their knowledge and the related abilities (students' opinion). Also, Knowledge sharing and Knowledge application obtained a mean under 4, but the last one is very close in value to 4. | |
| I acquired knowledge from teacher feedback toward my artifacts. | 4.411 | Regarding the items, the lowest score was obtained on Knowledge sharing: "I shared the feeling and thought of viewing others' artifacts with peers" (3.270), and the highest score was obtained on knowledge accumulation: "I accumulated knowledge from peer review of others' artifacts" (4.495). | |
| I acquired knowledge from peer review of others' artifacts. | 3.725 | | |
| I acquired knowledge from discussions. | 4.360 | | |
| 4. Knowledge application | 3.920 | 5. Discussions | |
| I applied knowledge that I learned from reflection to real or other situations. | 3.967 | By using the portfolio some steps suggested by Martinez-Lirola & Rubio (2009) were implemented to help students create and maintain their portfolios to be helpful in their learning process. In this respect, the tasks included in the portfolio reflected the main learning objectives and the discipline's competencies and defined the evaluation criteria for each portfolio piece clearly from the beginning of the semester. After that, were designed and implemented situations for self-evaluation and peer evaluation; evaluated | |
| I applied knowledge that I learned from revision of artifacts to real or other situations. | 4.044 | | |
| I applied knowledge that I learned from self-assessment to real or other situations. | 3.922 | | |
| I applied knowledge that I learned from rearrangement of learning contents (e.g., notes, handouts, and website resources) to real or other situations. | 3.933 | | |

students' tasks according to the criteria that had been previously established and talked about the portfolio in some individual and group situations. It was assured a solid foundation for knowledge acquisition and application, cooperation, self-assessment of our students, and assessment of others.

The highest mean was obtained for the Knowledge accumulation dimension – meaning how they considered that the portfolio influenced their status on knowledge storage and accumulation (an average of 4,125- 4 on the scale expressing the accord) and Knowledge acquisition dimension- meaning how they considered that the portfolio influenced their students' status on knowledge acquisition (4,113). The obtained scores demonstrate that students' opinion about their obtained knowledge status through the portfolio is high, and they have that the portfolio contributed on its.

Within the Knowledge accumulation dimension, the highest score was obtained by "I accumulated knowledge from peer review of others' artifacts" (4.495) and "I accumulated knowledge from teacher feedback toward my artifacts (4.461)". This score could accentuate the role of the teacher and other peers in the personal accumulation process. For the accumulation process, students considered that "I accumulated knowledge from peer feedback toward my artifacts" was less important, obtaining the lowest score for this dimension (3.500).

Within the Knowledge acquisition dimension, the highest score was for "I acquired knowledge from teacher feedback toward my artifacts" (4.411) and "I acquired knowledge from discussions" (4.360). It could be demonstrated that students acquire knowledge through portfolios and from teachers and discussion with teachers; less this is an exclusive personal action in settling up the portfolio or peers' feedback (3.648). Although accumulation is an individual and independent task, the teacher remains the important figure and the expertise in completing the portfolio task and acquiring knowledge.

Within the Knowledge application dimension, "I applied knowledge that I learned from teacher feedback toward my artifacts to real or other situation" – obtained the highest score on Knowledge application dimension (4.253). These demonstrate the importance of teacher feedback on the learning and assessing through portfolio and the lower importance accorded by students on others' feedback "knowledge that I learned from peer feedback toward my artifacts to real or other situations" (3.600).

Within the Knowledge innovation dimension, "I developed my own thinking model from peer feedback toward my artifacts" (4.256) and "I developed my own thinking model from rearrangement of learning contents (e.g., notes, handouts, and website resources)" (3.656), the highest and the lowest score could demonstrate that through the portfolio students developed innovation and creativity from others and

not from a personal reconsideration of a task. Unlike the other dimensions, the contribution of the others is better highlighted in this dimension, although creativity/ innovation are personal attributes.

The lowest average (3.482) was obtained within the Knowledge sharing dimension, students' considering "I shared the feeling and thought of viewing others' artifacts with peers" somehow (the lowest average on this dimension-3.2), but they "spent time to share and discuss with peers" (3.681) on the personal artifacts. Probably, peer feedback must be a dimension that could be improved in future similar online educational contexts.

What is the most relevant dimension that contributes to the formation of the student through the portfolio? For sure that one of them is more important than the other. It depends on what goals are settled at the level of the discipline and what concrete results were aimed to achieve. Of course, the results should be connected with the syllabus, covering the student's knowledge, aptitude, responsibility, and autonomy. It is also essential to develop transversal skills through the portfolio: communication, cooperation, academic, and professional ethics.

6. Conclusions

The "e-portfolios" could be the next big thing in campus computing as more and more institutions are encouraging, even requiring, students to create portfolios to highlight their academic work (Young, 2002). After using the portfolio, the students declared that developed accumulation and acquisition from others or through peer review. Also, applying the knowledge through a portfolio teacher's feedback is the most relevant. These results are somewhat natural in the context in which the students consider the teacher responsible for the acquisition and accumulation of knowledge at university level. If are analyzed in-depth, the two are different: acquisition is the foundation of the accumulation of knowledge, accumulation is due overtime and both depend on students' learning. The teacher is just a facilitator, and his feedback guides the student to concrete ways of optimization. Of course, feedback through the portfolio is helpful for optimization regarding the two dimensions, but it should not be a purpose in itself.

The students' responses showed that others are important milestones when it comes to innovation. As this process is very personal, the portfolio needs to provide favorable contexts for manifestation. It is necessary to pay more attention to the parts of the portfolio that support this dimension.

Unfortunately, the respondents considered that the portfolio support them only to some extent for sharing their feelings, issues, and reflections. New generations must acquire social skills and competencies that are

developed in a learning community and in a contemporary society that undergoes changes (Nitulescu & Rotaru, 2012). As a learning and assessment tool, the portfolio could also sustain this need. Due to the pandemic context, and the related students' actions, the portfolio must ensure great cooperation with peers, much independence in innovative learning, and more context for sharing the process and the results of construing the portfolio with others.

Authors note:

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